

Glossary

Air Quality Standards: The level of selected pollutants set by law that may not be exceeded in outside air. Used to determine the amount of pollutants that may be emitted by industry.

Attainment Area: An area considered to have air quality as good as or better than the national ambient air quality standards as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Carbon monoxide (CO): A poisonous gas that is odorless, colorless and tasteless. At low levels it causes impaired vision, loss of manual dexterity, weakness, and mental dullness. At high levels it may cause vomiting, fast pulse and breathing followed by a slow pulse and breathing, then collapse and unconsciousness.

Particulate matter (PM₁₀ and PM_{2.5}): One of the “criteria pollutants,” PM₁₀ particles are 10 microns or smaller in diameter. The pollutant increases the likelihood of chronic or acute respiratory illness. It also causes difficulty in breathing, aggravation of existing respiratory or cardiovascular illness and lung damage. In addition it causes decreased ability to defend against foreign materials. New laws have just been passed regulating PM_{2.5}, an even smaller and more harmful class of fine particles less than 2.5 microns in diameter. Kansas is beginning to monitor its concentrations.

Inversion: An atmospheric condition caused by increasing temperature with elevation, resulting in a layer of warm air preventing the rise of cooler air trapped beneath. This condition prevents the rise of pollutants that might otherwise be dispersed. Trapping pollutants near the ground increases ozone to harmful levels.

Lead (Pb): Airborne lead appears as dust-like particles ranging from

light gray to black. Low doses may damage the central nervous system of fetuses and children, causing seizures, mental retardation and behavioral disorders. In children and adults, lead causes fatigue, disturbed sleep and decreased fitness, and it damages the kidneys, liver and blood-forming organs. It is suspected of causing high blood pressure and heart disease. High levels damage the nervous system and cause seizures, comas and deaths.

National Ambient Air Quality Standards (NAAQS):

Standards set by the U.S. Environmental Protection Agency (EPA) that limit the amount of six air pollutants allowed in outside air. These six are carbon monoxide, inhalable particles, lead, nitrogen dioxide, ozone and sulfur dioxide. The limits are based on what is considered safe for humans to breathe.

Nitrogen dioxide (NO₂): A poisonous, reddish-brown to dark brown gas with an irritating odor. It can cause lung inflammation and can lower resistance to infections like bronchitis and pneumonia. It is suspected of causing acute respiratory disease in children.

Nonattainment area: A region in which air monitors detect more of a pollutant than is allowed by the National Ambient Air Quality Standards set by the U.S. EPA. The U.S. EPA may designate a region as a “nonattainment area” for that pollutant.

Ozone (O₃): A colorless gas with a pleasant odor at low concentrations. The layer of ozone in the stratosphere protects the earth from the sun’s harmful rays. Ground-level ozone is a summertime hazard produced when hydrocarbons from car exhaust and other fumes mix in the presence of sunlight with oxides of nitrogen from power plants and other sources. Ozone is more easily recognized in smog, a transparent summer haze that hangs over urban areas. The result is a gas that aggravates respiratory illness, makes breathing difficult and damages breathing tissues. Victims include people with lung disease, the elderly, children and adults who exercise outside.



Ozone Violation: One-Hour Standard - Four or more exceedances of the federal ozone standard occurring in a three-year period at the same monitoring site. **Eight-Hour Standard** - Average (over the most recent three years) of the annual fourth highest daily maximum 8-hour average ozone concentration is greater than 0.08 ppm.

Reformulated Gasoline (RFG): A fuel blend designed to reduce air toxins and volatile organic compound (VOC) emissions by decreasing the amount of toxic compounds such as benzene, lowering the evaporation rate and increasing the amount of oxygenate blended with the fuel.

Smog: Dust, smoke, or chemical fumes that pollute the air and make

hazy, unhealthy conditions (literally, the word is a blend of smoke and fog). Automobile, truck, bus, and other vehicle exhausts and particulate matter are usually trapped close to the ground, obscuring visibility and contributing to a number of respiratory problems.

State Implementation Plan (SIP): A plan submitted by a state or local agency to the Environmental Protection Agency for complying with national air quality standards.

Sulfur Dioxide (SO₂): A colorless gas with a strong, suffocating odor. Causes irritation of the throat and lungs and difficulty in breathing. It also causes aggravation of existing respiratory or cardiovascular illness.



Photo by: Tom Gross, KDHE

Air pollution affects our _____. a. heart b. liver c. bones d. lungs e. all of the above